Passed March 1828

On the Derangement of the Digestive Organs.

By

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Submitted to the inspection of the Medical faculty with much diffidence; for although the sentiments held forth in the essay, have been adopted and believed by the author from his reading and reflection, yet he acknowledges his inexperience in so complicated a subject, and begs that this may be his excuse for thus imposing it upon them.

Philad^a March 5th 1828

On the derangement of the Digestive Organs.

Amongst the numerous ills that man is heir to, there are none which present a more interesting subject of inquiry to the Pathologist than that class of diseases which affect the viscera concerned in digestion.
This function is so important to the animal economy, so essential to the comfort and well-being of man, that the least disturbance or interruption of it is followed by effects which are felt either directly or by sympathy in every part of the frame
It is not until within a few years that any considerable advances have been made towards a correct knowledge of these insidious maladies. It is chiefly to the researches of the ingenious Dr Philip and more recently

to those of Dr Jas. Johnson, does the profession then stand indebted for their present store of information, derived from abroad, relative to the pathology and treatment of these diseases. The distinguished Professor of the institutes and practice of medicine in this school is certainly entitled to a large share of credit for the faithful history he has given us of the maladies in question, and for the attention he has devoted to various affections of the primæ viæ in general. Nor is it to be wondered at, that this branch of Pathology should have so long remained obscured by the clouds of error, when we reflect on the Proteiform character of the diseases of the Stomach and chylopoietic viscera, and the consequent difficulty of reducing affections so various and dissimilar to any correct system of nosological arrangement.

Indeed the rage for classification, and the attempt to point out specific and appropriate remedies, have contributed not a little to prevent our attaining to a correct knowledge of the classes of diseases in question, whose characteristic symptoms were so multiform and anomalous, as to render abortive any attempt at correct classification. This is confirmed by the fact, that many of those affections which are well known now, to be mere symptoms of derangements of the Digestive Organs, were considered by Dr Cullen and other systematic writers, as idiopathic nervous diseases, and were accordingly arranged by the former under his class neuroses. Even the learned Dr Good, with all the advantages derived from improved medical science, has fallen into a similar error, by treating as primary affections, certain diseases which are manifestly no-

thing more than symptomatic indications of the class of disease under consideration—
In practice too, physicians are invariably required by patients, or their friends, to affix some determinate name to the malady they are about to relieve, and when this matter is once satisfactorily settled, there is rarely much difficulty in getting along with the treatment, but when the medical attendant is a little puzzled to gratify the eager curiosity of friends or nurses, on this point, the endless "class of neuroses" happily comes to his aid and at once pronounces the case "nervous" thus all parties are readily satisfied.
This mode of adjusting difficulties, is but too often resorted to, in that numerous class of anomalous affections which proceed from a morbid state of the digestive organs. And it were well for afflicted

humanity if the evil ended here, but alas! empirical and pernicious doctrine that carry disease, is distinct in its nature, and requires its specific remedy, is here brought to bear and the poor patient is drenched with tonics, stomachics, antacids, and antispasmodics, according to the various symptoms until either death kindly comes to his relief, or nature aided by travel (which leads him from the merciless clutches of the "Doctor") cures the disease.

It will hardly be required of me to describe the office of the Stomach and other digestive organs, much less their anatomy - subjects, which are familiar to every first course student of Medicine - my present concern is with their pathology. It is necessary to my purpose however to glance at one physiological fact, which is, that these organs are liberally

supplied with nerves, and of course posses much of that principle called contractility, or organic sensibility. In a healthy state, this principle, as far at least as the Stomach is concerned, is only manifested by the sensations of hunger, thirst, and satiety, if we except that pleasurable one, which every one experiences, when the functions of this important organ are carried on in a healthy manner. These sensations may be considered as instinctive, and are implanted by nature for the purpose of directing the various animal actions. In a state of disease however this sensibility becomes so much exalted as to produce sensations, amounting often to actual pain, which is directly referrible to the part affected, at other times displaying itself by various sympathetic affections in other and often

remote parts. These sympathies are doubtless to be attributed to the wonderful nervous intercommunion which extends through every part of the system - but - is especially displayed in that complicate tissue of nervous arrangement, the Grand Sympathetic, whose all pervading influence seems to reach every part of the animal frame.

The Stomach then, is the centre from which radiates in all directions these varied sympathies. So long as this important organ continues in its natural or healthy state, the individual has a consciousness of ease, comfort, strength, and pleasurable feelings, with an aptitude and disposition to physical and mental exertion, and an increased animation and vivacity - there is known no distinct sensation. When on the contrary, the normal actions of the

Stomach are deranged, there is a change in the whole man according to the nature of the disturbance. There is now, distinct sensation, but not of ease, comfort, or pleasure - in place of these, there is sickness, or pain, or langour, or oppression, or some other feeling directly referrible to that organ, which affects the whole frame, depriving it of its accustomed energy, perhaps sinking it into a state bordering on the extinction of life. These are chiefly the effects of causes acting immediately on the Stomach, and may be produced at any time, or, in any individual however well in other respects! they may therefore be considered as the result of normal actions, continuance of these, or causes which weaken the organ or pervert its healthy and natural actions, whether acting directly on it, or indirectly through other

parts or organs, produces effects altogether different from the foregoing. These are manifested by numerous anomalous affections, excited in various, and often, remote parts of the body, which although obscure and with difficulty traced to their primary seat, are, nevertheless well known to proceed from disorders of the Stomach, and other digestive organs. A late facetious writer, abroad, who takes occasion to ridicule what he is pleased to stile "Fashions in Physic" remarks, that it was not until of late that people knew they had a Stomach - now this organ is spoken of on all occasions, and Dyspepsia, and Indigestion, are all the rage. Such indeed is the lamentable fact in the present perverted state of mans appetite. In consequence of his great dereliction from natures simple plan,

those various sympathies, which prevail in every part of the animal economy, and are calculated to diffuse that ineffable, and indefinable sense of pleasure, throughout which, we can better estimate by the loss, than demonstrate by its presence — these very nervous sympathies become a source of pain, and of bodily and mental disease, as is too often exemplified in that gloomy train of nervous maladies, which afflict the exhausted and shattered frames of the votaries of pleasure. To describe the various secondary affections, which proceed from disordered digestive organs, and are radiated through every part of the body, by means of the numberless nervous ramifications, were to undertake an endless labour, as it would be coextensive with the whole catalogue of nervous ills, as they are varied by every varying idiosyncrasy — sufficient to say, that there

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is no part of the human system, which is not occasionally brought into a state of Sympathy, by the disorders refered to. The brain and its appendages - the heart - the lungs - the kidneys and bladder - the muscles of voluntary and involuntary motion, are all by turns made to feel the displeasure of an irritated Stomach. Nor are these sympathies experienced alone in the corporeal frame - the mind is also brought to participate in the suffering, and this in no inconsiderable degree as is evidenced in Hypochondriasis. There are still other affections known, whose shades of difference from a healthy state, are so indistinct, as to pass unnoticed by the casual observer. I refer to those slight and almost inappreciable deviations from a state of mental sanity, which consists, in mere diminished energy, beclouded perception, confusion of thought, a sickly and desponding feeling, which causes the suf-

fun to view every thing, through a gloomy medium a state of mind, which will be readily understood, by every observant dyspeptic.

It would be a curious subject of speculation to trace the influence of disorders of the kind under consideration on the moral conduct of men. That it receives an important bias from these physical causes, no one can doubt who is at all versed in this branch of pathology. Oppression of mental energy, capriciousness of temper and irritability, suspicion, jealousy, and other bad passions, which are destructive of the social feelings, and extend an unhallowed sway over the moral actions of men, are often the effect of disordered digestive organs. The causes of the derangements in question, may be said to consist, in that departure which is caused, by a state of civilization and refinement, from nature's plan of primordial simplicity.

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In these times of almost Persian luxury and effeminacy, when the ingenuity of man, is constantly employed in devising the means of pampering the appetite, and contributing to sensual gratification, when altars may be said to be unceasingly smoking, to appease the perverted cravings of that idol of the sensualists worship, the stomach, it is not to be wondered at, that we should pay the penality of one having thus transgressed the limits of Nature simply by incurring a multitude of diseases unknown to our more temperate ancestors: nor is it less surprising that the Stomach and digestive organs, should bear the onus of this suffering. I need scarcely mention intemperance in the use of stimulant potations, such as spirits, wine, and beer, which are a fruitful source of the disordess under consideration, and under this

head might be classed the common beverages, tea and coffee, whose habitual use, has contributed not a little to the same end. Besides what may properly be called ingesta, there is one other luxury the immoderate use of which is destructive to the digestive function. I allude to tobacco! and it matters but little, whether this be taken in the form of snuff, the cygar, or the quid; its influence is alike deleterious to the stomach. Modern refinement, has introduced many other innovations, which have their share in the prevalence of these diseases, and amongst these I mention late hours, sedentary employments, want of exercise in the open air, intense application to business, or intellectual exertion. which last seems to act by depriving the digestive organs of their due share of cerebral energy. There are other causes which are

connected with Atmospherical changes, that operate through the surface, or lungs, to produce disorders of the liver or spleen, such as humidity, vicissitudes of temperature and miasmatic exhalations. These however affect the digestive process only secondarily. Besides the preceding, which may be called physical causes, there are others of a moral character, which, although less common and less obvious, are not the less certain in their effects! of these we may mention the depressing passions, grief, anger, fear. In the present state of society, there are a thousand causes of mental perturbation and anxiety, growing out of the various relations in which mankind are placed, that conspire to give birth to the evil in question, and in comparison with which, most of the physical causes dwindle into insignificance. I need only instance a few of these - as the concerns

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of business, domestic cares, the desire of fame, ambition, all of which exert a greater or less degree of influence, on the digestive functions, — which, when long disturbed to the extent of impairing the secretions, are apt to run into structural or organic diseases. But more of this hereafter. To detail all the Symptoms of these disorders, were almost an endless task. They are as various as are the numerous sympathies that are called into play in the various organs — and structures of the body. It may be well — however to enumerate some of the most prominent, and they may be divided into idiopathic and sympathetic. Of the first are pain in some of the regions of the abdomen, particularly after taking food, Pyrosis, Gastrodinia, load at Stomach or the Epigastrium. Of the second — class may be mentioned palpitation of the heart, irritation of the lungs producing cough, dysp-

noea, and pain in the breast, various distaessing affections of the head (some of which the patients are at a loss to describe) which in their aggravated form, sometimes threaten apoplexy, extreme drowsiness, pain in the eyes, perversion or even loss of vision, impaired hearing, confused sounds, and tinnitus aurium. The intellectual function too is often disturbed, sometimes, nay, not unfrequently, to the extent of mental alienation, but more commonly by confusion of ideas, loss of memory, dejection of spirits, despondency. Most of these latter symptoms, are so diverse and equivocal as to render the diagnosis extremely difficult, except to one accustomed to combat these insidious maladies. Amid this host of delusive indications, however, there are generally to be found others, which serve to aid the wary practioner in tracing them up

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to their true source. In the short Pathological view I am about to take of the disorders under consideration, I shall not pause to describe the various affections of the digestive organs, or the different stages of these maladies, according to the plan generally pursued, since this would occupy more space than is usually allotted to these essays. Suffice it to say, that they are primarily seated in the stomach or liver, from which they extend to the duodenum and pancreas, and finally to all the viscera of the abdomen, affecting these in a greater or less degree, according to their duration, or to the violence of the cause. In what this morbid state consists in its incipient stage, it is difficult to say; for dissection does not reveal any structural lesion in this stage, of this disease, but as already remarked, it is primarily, merely one of function - that, in consequence of this failure of the organs to per-

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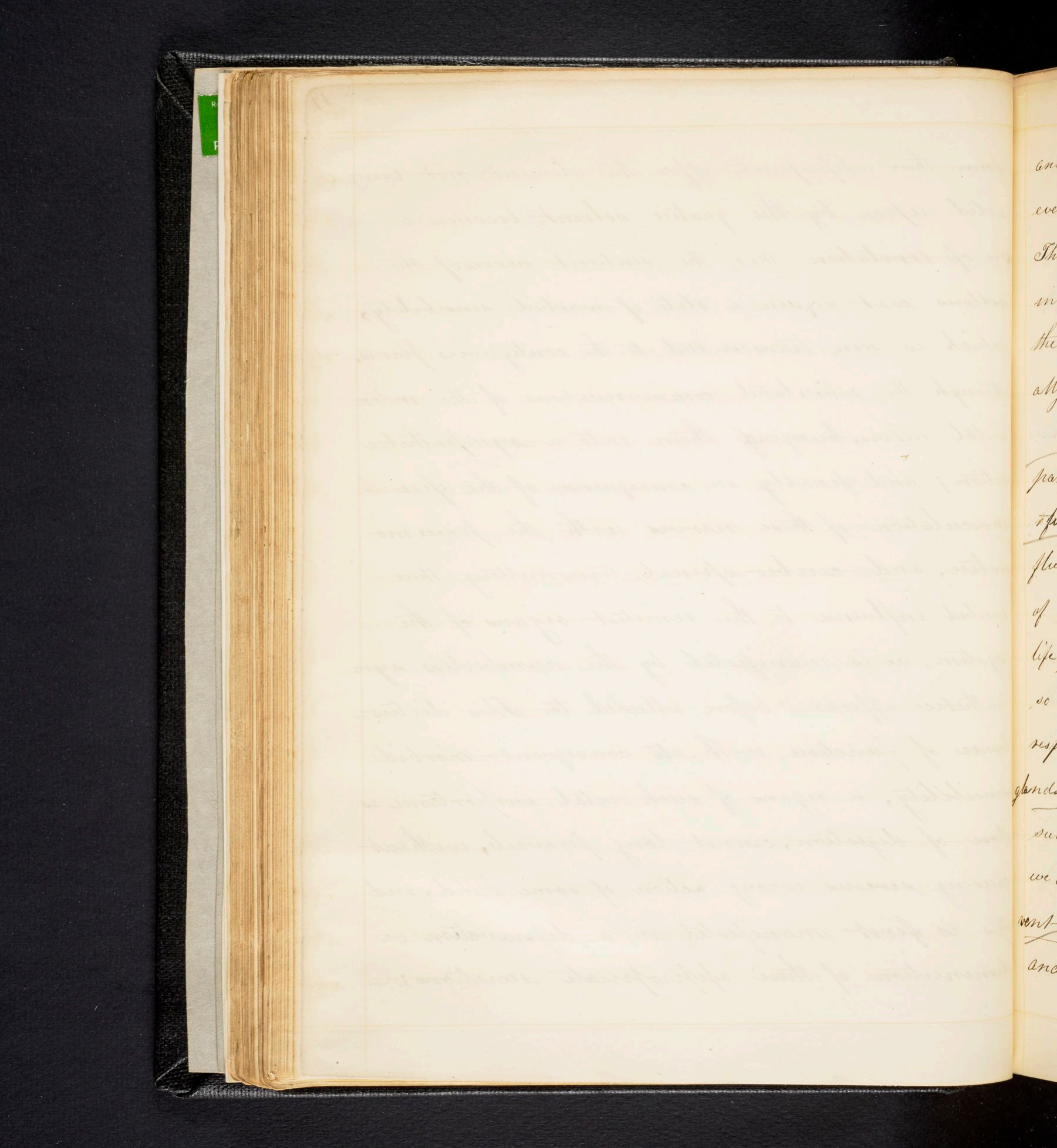
form their appropriate office, the aliment, not being acted upon by the gastric solvent, becomes a source of irritation, that the sentient nerves of the villous coat acquire a state of morbid sensibility, which is soon transmitted to the contiguous parts, through the reticulated communications of the intercostal nerves, bringing them into a sympathetic action; and finally in consequence of the free inosculation of these nerves with the pneumo gastric, and cerebro-spinal, transmitting their morbid influence to the remotest organs of the system, as is manifested by the numberless sympathetic affections before alluded to. This disturbance of function, with its consequent morbid sensibility, in organs of such vital importance as those of digestion, cannot long prevail, without causing serious wrong action of some kind, and this is first manifested in a depravation or diminution of their appropriate secretions; —



and the same wrong action, if long continued, must eventuate in disorganization or structural disease. This interruption of function most commonly begins in the stomach. May it not have its seat in the mucipparous glands primarily, which so liberally supply that organ and furnish its secretions

These in common with all the glandular apparatus of the system, are dependent for their healthful action, on the supply of vital or sensorial influence, which they receive through the medium of the cerebral nerves, from the grand fountain of life, the brain; and any interruption of this influence, so essential to health and life, must produce a corresponding interruption of function, both in the glands themselves, and in the organ to which they are subsidiary. Whether the process whose abnormal condition we are now considering, is effected simply by the solvent powers of the gastric liquor, or is purely vital — and the result of a sort of elective affinity possessed

by the villous coat of the stomach and intestines, and exercised, through the intervention of the nerves so liberally distributed to this tissue, like the action of opposite wires of a Galvanic series, it is perhaps beyond the reach of human intellect to determine. Most certain it is however, that the nervous system has a powerful, nay, indispensable influence in the important function in question: and from many experiments which have been made on various alimentary substances, by subjecting them to the action of the gastric solvent, it would seem that this last has a principal agency in the process, and that any interruption or suppression of the nervous energy in the apparatus which supplies this necessary menstruum, has the effect to diminish its quantity or impair its quality. This is exemplified by the well known fact, that the digestive powers of the stomach are suspended or destroyed, as, in the experiment of recent Physiologists, the pneumogastric nerve has been tied, or a portion cut out, so as complete-

ly to destroy their ability to conduct the influence of the brain to this organ.

But although Dyspepsia, properly so called, may commence in the stomach and its auxilliary apparatus, it cannot long continue without involving other organs, and hence if the disturbed function is permitted to continue untill there is a confirmed wrong action in that viscus, we see first the duodenum, and next the liver and pancreas, and perhaps at last, all or nearly all, the viscera of the abdomen, brought successively into a like morbid condition. In the early stage of the gastric disturbance, so long as it may be called a mere interruption of function, there is little tenderness on pressure from without, but if it continue we have soon, evidence of increased sensibility and a shrinking at the mere pointing of a finger at the epigastrium. As the disease advances, this sensibility extends to other organs, until at last, the patient

is unable to bear pressure in the right hypochondrium, more especially, at that part lying over the duodenum. There is now most commonly other evidence of disease in this last mentioned organ, afforded by the distress or pain experienced some hours after eating, when the food has passed the pylorus, perhaps in an imperfectly digested state, to become a source of irritation to this organ in its turn. From the direct connection between the duodenum and the liver, it is not probable that the former can continue long diseased, without affecting the latter in a greater or less degree, nor do I think Dyspepsia even in its mildest form, can prevail long without producing some disturbance of function in these glands, more particularly the latter, as is evinced, by the torpor of bowels so common in all stages. Indeed the disease, from some particular circumstances, or perhaps from a weakened state of the liver, often expends its principal —

force on other organs, and the patient, besides the usual symptoms will complain of pain in one or both shoulders, of sense of uneasiness in lying on the left side. This state of things enhances the difficulty of the cure, for under these circumstances, there is always more or less congestion of the portal vessels, from their interrupted hepatic function, and of course a greater tendency to structural disease of the delicate mucous tissue. An example of this occurred in the person of my preceptor Dr. S. L. Howell in whom chronic Hepatitis, as the consequence of Dyspepsia, terminated in violent Dysentary. On recovering from which however he found himself entirely free from the two former distressing complaints. Dr. H. alledges that he has known the same thing to occur in other cases than his own. Although the disease of the liver, may often be the effect, yet it sometimes the cause of the dyspeptic affection; nor can the former perhaps well exist, without some derangement of the digestive organs

generally. Nor need we have recourse to a vague ~~and indiscriminate~~ sympathy to account for this phenomenon, when it is recollected, how important an influence this gland exercises over the abdominal viscera, and how the venous blood of nearly all these organs passes through the vena portarum, into the liver, there to be elaborated into a fluid sui generis, which is indispensable, not merely to the process of assimulation, but to impart to the bowels that stimulus, which is requisite to keep up their natural action; it will not cause astonishment that great derangements of the digestive organs, generally, should be the consequence of any serious disease of this important viscus, intimately as they are connected with it, both in function and position; moreover a diseased state of the liver, must needs be followed by more or less congestion of the vessels of the stomach and bowels, which besides impeding their several functions, must increase the

tendency to wrong action, and greatly enhance the danger of organic disease. But here we have an example of a wonderfull provision in the economy of nature, to avert evil, and to guard these important organs from the consequences just adverted to. It is the spleen which, beyond all question, is designed as a reservoir, or rather as a waste gate, to let off that surplus or excess of blood, with which, the stomach and bowels would otherwise be burthened, until nature by her own recuperative efforts, or by the aid of art, can be relieved. Should these prove unavailing, and thow morbid, and perverted, actions continue, the spleen becomes affected in turn. Congestion in this viscus is followed by inflammation chronic or acute; there is great enlargement, perhaps induration; the various tissues of the abdominal contents, become thickened, and all their functions are, more or less, interrupted or suspended. But nature ever fruitful

in expedients, makes a further effort to avert fatal lesion and disorganization, by opening a new drain, and relief is often afforded, by a discharge from the Hemorrhoidal vessels. It is presumable, that these assiduous efforts on the part of nature to preserve her works, would generally succeed, if she were not thwarted either by the officiousness or ill directed aid of the Doctor, or by a perseverance on the part of the patient, in a course of diet altogether adverse to her simple plan. When however all means of relief fail, one viscus after another becomes involved, until not merely the abdominal, but the pelvic contents, nay, sometimes those of the thorax are at length affected, and the functions of all become more or less interrupted until marasmus, or dropsy, or phthisis, finally closes the scene. If the preceding pathological view of the multiform malady under consider

ation, be correct, the Treatment, both as regards medicine and regimen, should be more simple than is supposed. But the former will be of little avail, without the strictest attention to the latter. It is difficult to lay down a rule whereby to regulate the diet with any great precision, so different are these affections, so various the idiosyncracies in different individuals. As a general rule however it should consist of the farinacea, and milk or cream, and the patient (except in the early stages when lean animal food may generally be taken with impunity) should avoid all fatty articles - all kinds of pastry - newly made bread, and butter cakes - all condiments except salt = flatulent vegetables and unripe fruits, and liquids whatever be their composition can rarely be tolerated by the Dyspeptic, in any considerable quantity - even soup which might be supposed to contain extractive matter both animal

and vegetable, in a state of all others most assim-
ilated, is nevertheless very apt to run speedily in-
to the acetous fermentation, and cause great distress
— tea and coffee, beverages, now in such com-
mon use, as almost to be ranked among the
common necessaries of life, rarely agree with
the dyspeptic stomach. They can sometimes be
taken with advantage however without sugar,
in small quantities. Stimulating drinks, such
as the various alcoholic preparations, are al-
ways hurtful. The medical treatment may prop-
erly be divided into two kinds — that which
is necessary to obviate accasional symptoms — and
that whose object is for the relief of the dis-
ease. In cases of great morbid sensibility, one
of the most distressing affections with which
the dyspeptic is troubled with, is pain in
the stomach or duodenum, caused by the irrita-
tion of indigestible ingesta. This is most effect-

ually relieved by evacuating the stomach, either by taking warm water, or, a few grains of Ipecacuanha, which is far less injurious than the common mode of relief by anodyne medicine, which may indeed allay irritation, but it is at the expense of increasing the weakness and irritability of the stomach and bowels. Acidity so common and distressing a symptom, and nausea, are best relieved by the following

℞. Soda super-carb. ʒij
aqua ——— ℥viij
adde Sp: ammon. aromat. ʒj m.

of which a table spoonful should be given pro re-nata. To answer the same indication the following preparation is often very useful —

℞. Magnes: ust: ʒj
Carbo: Ligni — ʒfs. m.

of this a teaspoon full may be taken occasionally mixed with milk.

I am next to speak of the remedies calculated to cure the disease - and here the indication which should direct in other cases, ought to prevail - viz. first to remove the cause, and next to restore the organs affected, from a state of wrong action, to their normal condition. In the incipient stage of the maladies in question, little more is necessary than a strict attention to diet, inasmuch as one of the principal exciting causes is unwholesome or indigestible food or drink. Medicine perhaps is merely called for, (except it be such as may be required to obviate occasional symptoms) until there are striking evidences afforded of confirmed wrong action, and interrupted function. Under these circumstances, more effective measures are called for, and here the blue pill is the appropriate remedy. The rationale of the operation of this medicine will be readily understood, when we refer to what was said on the pathology of the disease. The practice of my preceptor Dr H.

of Princeton, where dyspeptic affections prevail to a great degree, owing to the studious and sedentary habits of a large proportion of the population, is to give the blue pill in doses of one gr. of the mass every two hours until six pills are taken per day - giving at the same time, when the bowels are slow - one or more pills composed of the blue mass, Rhei and Aloes at bed-time, but not in quantities, sufficient to disturb the patient before the following morning. This plan of treatment is continued either until relief is afforded, or a slight turgescence is apparent in the gums, when the use of mercury is to be suspended for a few days, and again resumed until a similar effect is produced. It is rarely necessary however to carry it to this extent, more than once or twice, as the distressing symptoms, except in the more advanced stages, now begin gradually to abate. If no alteration

however take place after a fair trial of the mercury and this Dr H. continues in some cases for several months, he next has recourse to the nitro-muriatic acid in the following proportions, viz,

℞. Acid Nitric – ʒ j

" Muriatic – ʒ ss

aqua – – ℥ viij ss

Sp. nitri dulcis ℥ iij ss

of this a teaspoon full is directed q. h. sec.: and continue until relief is afforded. When there is great costiveness, and the mercury has failed to give relief, Dr H. uses, besides, the nitro-muriatic bath as recommended by Dr Scott, which in conjunction with the former mixture, has frequently produced surprising effects. In many cases of confirmed character, where there is tenderness at the epigastrium or under the cartilages of the right hypochondrium, b.e. or cupping, is often necessary, and great relief is often affor-

ded by the latter remedy, where there is local inflammation. Indeed the detraction of blood — generally or topically, is often a necessary preliminary to the effectual exhibition of the mercury. Tonics are rarely, and stimulants never, necessary in the disorders under consideration — both have a tendency to confirm wrong action, and to convert functional into structural disease. In cases of individuals in advanced life or whose constitutions have been shattered by intemperance, there is sometimes an inability to take the mercury, in consequence of its effect on the bowels. In such cases it is admissible to combine a minute portion of opium with that drug, to prevent its irritating effect. In cases where the liver is involved, which happens oftener than is generally supposed it becomes necessary to modify the practice, so as to endeavour to relieve the chylopoetic viscera from the congestion, which

is the necessary consequence of Hepatic disease. Here such combinations of the mercurial preparations are called for, as will keep up the constant action of the bowels, without causing too much irritation, either in them, or in the stomach. For this purpose the following preparation is used by Dr H.

R. Mass. ex hydrarg. ℥ ij
Aloet. — — — — ℥ i
Sapo. Venet. — ℈ j
R. Rhei — ℥ iss
Syr. Rhei — q.s. m. f
in pill LX iv div.

of these pills one or two are given every two hours, until they operate, and this course is pursued every other day, until relief is procured, which is commonly experienced in a little while after a gentle ptyalysm is brought about.

In cases of the above description, as also in those

where the spleen is disordered, cupping v.s. and irritating plasters to the part, are generally required. And it is somtimes necessary under these circumstances, to have recourse to the seton or issue. Having extended this essay much beyonds the limits originally contemplated, I must needs pass over many of the minor parts of the curative plan, which are too familiar and common-place, to require elucidation. The same consideration induces me to omit many interesting cases which are furnished me by my preceptor, illustrative of the truth of the foregoing pathological view, and exemplifying the benefits of the treatment of the various affections, which I have ventured to describe in these hastily written pages.